

CLAIMS

1. A procedure for producing spherical polymer particles with a narrow size distribution, i.e. with a CV of less than 35%, preferably less than 20%, in the range between 5 and 100 µm by free radical polymerisation of vinyl monomers, characterised in that the polymerisation is performed as a one-step seed polymerisation in which the start particles consist of a non-cross-linked polymer produced by a dispersion polymerisation which gives the start particles such a high swelling capacity that they can absorb more than 5 times and preferably more than 20 times their own volume.
2. A procedure in accordance with claim 1, characterised in that the start particles absorb from 5 to 120, preferably from 20 to 100, times their own volume of vinyl monomers or a mixture which contains vinyl monomers.
3. A procedure in accordance with claim 2, characterised in that the mixture which contains vinyl monomers contains one or more inert solvents which lead to the formation of porosity in the polymer particles.
4. A procedure in accordance with claim 3, characterised in that the mixture which contains vinyl monomers also contains a polymerisation initiator in addition to one or more inert solvents.
5. A procedure in accordance with claim 4, characterised in that the polymerisation initiator is added separately from the mixture which contains vinyl monomers.
6. A procedure in accordance with claims 1 to 5, characterised in that the vinyl monomers or a mixture which contains vinyl monomers is finely divided into small emulsion droplets before they are swelled into the start particles.

7. Spherical polymer particles with a narrow size distribution, i.e. with a CV of less than 35%, preferably less than 20%, in the range between 5 and 100 µm, characterised in that they are produced by the procedure in accordance with claims 1-6.

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8. Polymer particles in accordance with claim 7, characterised in that the porous structure in the particles has a very low content of pores with a diameter below 50 Å, i.e. less than 10%, preferably less than 5%, of the total pore volume.

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9. Polymer particles in accordance with claim 7 or 8, characterised in that the porous structure in the particles is free from micropores with a diameter below 5 Å.

15 10. Polymer particles in accordance with claim 7, 8 or 9, characterised in that the size distribution of the polymer particles is always narrow and preferably narrower than that of the start particles.

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